

# 2020 Software V&V

## 【 [B1] 2nd Static Analysis 】

Team #1

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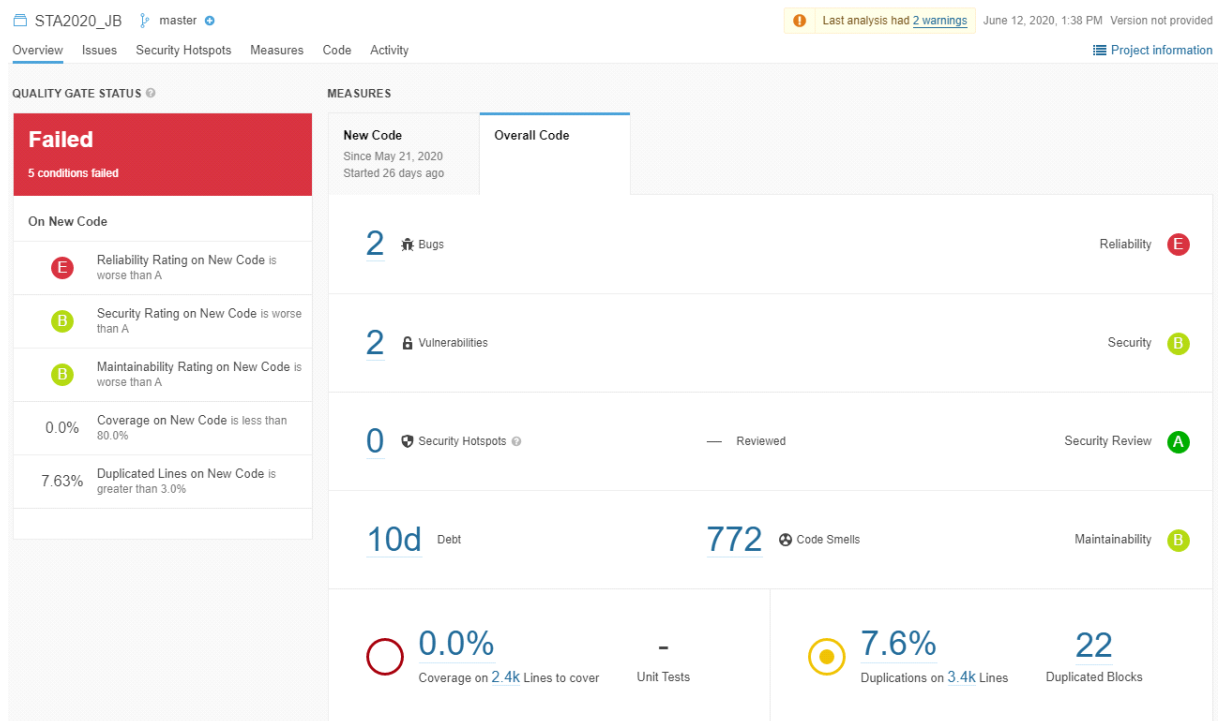
# 1. Static Analysis

## 1. Overall

SonarQube Link(개발팀 참고용):

[http://34.64.75.97:9000/project/issues?id=STA2020\\_JB&resolved=false&severities=BLOCKER%2CCRITICAL%2CMAJOR%2CMINOR](http://34.64.75.97:9000/project/issues?id=STA2020_JB&resolved=false&severities=BLOCKER%2CCRITICAL%2CMAJOR%2CMINOR)

\* 좌측 인터페이스에서 Severity를 선택하여 항목별 결과를 따로 확인할 수 있음



Type			
Bug			2
Vulnerability			2
Code Smell			772
Severity			
Blocker	1	Minor	670
Critical	30	Info	2
Major	73		

※ Severity가 Blocker, Critical, Major, Minor에 해당하는 항목들에 대해서 최종 결과 분석을 진행.



### Reliability ⓘ

Overview ⓘ

On new code

Bugs: 2

Rating: E

Remediation Effort: 25min

Overall

Bugs: 2

Rating: E

Remediation Effort: 25min

### Security Review ⓘ

On new code

Security Hotspots: 0

Rating: A

Overall

Security Hotspots: 0

Rating: A

### Security ⓘ

Overview ⓘ

On new code

Vulnerabilities: 2

Rating: B

Remediation Effort: 30min

Overall

Vulnerabilities: 2

Rating: B

Remediation Effort: 30min

### Maintainability ⓘ

Overview ⓘ

On new code

Code Smells: 772

Debt: 10d

Debt Ratio: 5.1%

Rating: B

Overall

Code Smells: 772

Debt: 10d

Debt Ratio: 5.1%

Rating: B

Effort to Reach A: 2h 24min

Quality Profiles / Java

Sonar way Custom

Rules	Active	Inactive
Total	373	1.5k
Bugs	110	484
Vulnerabilities	19	155
Code Smells	225	861
Security Hotspots	19	15
Sonar way rules not included ⓘ		31

Exporters

- [FindBugs](#)
- [PMD](#)
- [Checkstyle](#)

※ SonarQube, PMD, Checkstyle

SonarQube Default Ruleset을 Customizing하여 (네트워크 관련 룰 제외 등) Bugs 관련 110개, Vulnerability 19개, Code Smells 225개, Security Hotspots 19개, 총 373개의 Active Rules 적용

-> 이후 결과에 대해 수동으로 확인하며 수정 필요성을 판단하여 정리하였음.  
 예) 주석 삭제/추가, 필요하다고 판단되는 코드 재사용, 짧은 If문을 한 줄로 작성한 것 등은 수정 소요에서 제외함.

## 2. Result

### 1) Blocker

src/main/java/model/DWS.java

Add an end condition to this loop. Why is this an issue? 17 days ago L199 No tags

🐛 Bug 🚫 Blocker 🔄 Open Not assigned 15min effort

1 of 1 shown

시계가 종료되는 시나리오가 존재하지 않고, UI 자체 종료 버튼을 활용하기 때문에 loop에 대한 별도의 종료 조건은 필요하지 않다고 판단함(수정 소요 없음)

### 2) Critical

Add a default case to this switch. Why is this an issue? 14 days ago L409 No tags

🐛 Code Smell 🚫 Critical 🔄 Open Not assigned 5min effort

Add a default case to this switch. Why is this an issue? 11 days ago L531 No tags

🐛 Code Smell 🚫 Critical 🔄 Open Not assigned 5min effort

Add a default case to this switch. Why is this an issue? 14 days ago L685 No tags

🐛 Code Smell 🚫 Critical 🔄 Open Not assigned 5min effort

Add a default case to this switch. Why is this an issue? 14 days ago L712 No tags

🐛 Code Smell 🚫 Critical 🔄 Open Not assigned 5min effort

-> Switch문에 Default Case를 추가하여 예외처리 요망

src/main/java/view/ScheduleListPanel.java

Define a constant instead of duplicating this literal "SanSerif" 5 times. Why is this an issue? 15 days ago L32 No tags

🐛 Code Smell 🚫 Critical 🔄 Open Not assigned 12min effort

src/main/java/view/ScheduleSetPanel.java

Define a constant instead of duplicating this literal "SanSerif" 11 times. Why is this an issue? 11 days ago L20 No tags

🐛 Code Smell 🚫 Critical 🔄 Open Not assigned 24min effort

src/main/java/view/StopWatchPanel.java

Define a constant instead of duplicating this literal "SanSerif" 6 times. Why is this an issue? 11 days ago L22 No tags

🐛 Code Smell 🚫 Critical 🔄 Open Not assigned 14min effort

src/main/java/view/TimeKeepingPanel.java

Define a constant instead of duplicating this literal "SanSerif" 3 times. Why is this an issue? 16 days ago L19 No tags

🐛 Code Smell 🚫 Critical 🔄 Open Not assigned 8min effort

-> 여러 번 반복되는 literal Value(SanSerif 폰트)를 유지보수성을 향상시키기 위해 상수로 선언하여 사용 요망

### 3) Major

Remove this unused method parameter "gui". Why is this an issue? 11 days ago L12 No tags

🐛 Code Smell 🚫 Major 🔄 Open Not assigned 5min effort

Remove this useless assignment to local variable "itr". Why is this an issue? 8 days ago L102 No tags

🐛 Code Smell 🚫 Major 🔄 Open Not assigned 15min effort

-> 사용하지 않는 parameter, local variable 제거 요망

src/test/java/model/AlarmModeTest.java

Rename "alarmMode" which hides the field declared at line 9. Why is this an issue?

4 days ago L25

Code Smell Major Open Not assigned 5min effort

No tags

Rename "alarmMode" which hides the field declared at line 9. Why is this an issue?

4 days ago L43

Code Smell Major Open Not assigned 5min effort

No tags

Rename "alarmMode" which hides the field declared at line 9. Why is this an issue?

4 days ago L61

Code Smell Major Open Not assigned 5min effort

No tags

-> 클래스 멤버변수로 선언된 변수를 지역 블록에 재선언, 삭제 요망

Return an empty array instead of null. Why is this an issue?

14 days ago L247

Code Smell Major Open Not assigned 30min effort

No tags

Return an empty array instead of null. Why is this an issue?

11 days ago L329

Code Smell Major Open Not assigned 30min effort

No tags

Return an empty array instead of null. Why is this an issue?

14 days ago L375

Code Smell Major Open Not assigned 30min effort

No tags

Return an empty array instead of null. Why is this an issue?

14 days ago L428

Code Smell Major Open Not assigned 30min effort

No tags

-> 반환형이 object[]인 함수 또는 메소드에서 NULL을 리턴하면 nullity을 매번 검사해야 하므로 빈 객체를 리턴하도록 수정

src/test/java/model/WorldTimeModeTest.java

The return value of "substring" must be used. Why is this an issue?

10 days ago L34

Bug Major Open Not assigned 10min effort

No tags

-> 테스트 코드에서 사용되지 않는(무의미한) 코드를 제거 요망

#### 4) Minor

src/main/java/model/DWS.java

Remove this unused import 'view.AlarmListPanel'. Why is this an issue?

11 days ago L3

Code Smell Minor Open Not assigned 2min effort

No tags

Remove this unused import 'java.lang.invoke.WrongMethodTypeException'. Why is this an issue?

8 days ago L6

Code Smell Minor Open Not assigned 2min effort

No tags

Remove this unused "itr" local variable. Why is this an issue?

8 days ago L102

Code Smell Minor Open Not assigned 5min effort

No tags

-> 사용하지 않는 local variable 또는 import를 삭제 요망

### 3. Summary

Static Analysis 결과, B1조는 기능적인 문제를 야기할 수 있는 버그의 수는 매우 적었으며, 대부분 사소한 코딩 스타일, 주석 처리 관련 이슈가 많았으며, 전체적인 개발물의 퀄리티가 높다고 보여짐.